

#### **OBRIENS GERE**

March 6, 1984

Dr. Ray L. Hillard Technical Director American Cyanamid Co. Bound Brook, NJ 08805

Re: Lagoon 1 and 2 Closure Summary

File: 2456.017 #2

Dear Ray:

Pursuant to your request, this letter will present a summary of the Lagoon 1 and 2 closure program and present the current status of the alternatives which are available for the closure of these two lagoons.

The report entitled "Lagoons 1 and 2 Evaluation of Remedial Alternatives", submitted to Cyanamid in December 1982, concluded that the most economic alternative for the remediation of Lagoons 1 and 2 was fuel blending and off-site sale for energy recovery. This report also concluded that the cost-effective approach was for Cyanamid to undertake this blending/off-site sales operation. However, this report recognized that it may be preferable for Cyanamid to deal with an outside contractor for this This report recommended that Cyanamid undertake a dual program operation. defin**e** better the cost associated with the Cyanamid blending/off-site sales operation, while also better defining the cost of an outside contractor undertaking this fuel blending/off site sales operation by obtaining competitive quotes for this work effort.

As a result of the recommendations of this Report, Cyanamid directed O'Brien & Gere to undertake a program with the above defined goals. Inherent in this program was the development of a demonstration scale fuel blending facility, based on the laboratory work that had been completed. The purpose of this facility was to demonstrate to outside contractors that the technology is available to blend the contents of the lagoons into a fuel-like material while also providing sufficient quantities of blended fuel for their testing and analysis needs.

A meeting was held with NJDEP on February 9, 1983 for the purpose of reviewing Cyanamid's approach to the closure of Lagoons 1 and 2. At that meeting and in a subsequent follow up letter of February 24, 1983, NJDEP stated that they supported Cyanamid's plan to use the lagoon material for energy recovery, but that if energy recovery did not prove to be technically or economically feasible, Cyanamid should be prepared to implement some other alternative closure within the time frame set forth in the ACO.

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As a result of this, Cyanamid decided to expand the scope of this closure program to include other recycle/recovery options along with solidification/on-site landfilling and off-site landfilling. This expanded scope is explained in detail in our letter of March 13, 1983, which is presented as Attachment A.

The fuel blending technology was proven to outside contractors through the construction and successful operation of a pilot scale fuel blending facility during the spring of 1983. Contract Documents for the turn-key closure of Lagoon 1 and 2, utilizing fuel blending or some other form of recycle or recovery, solidification/on-site landfilling, and off-site landfilling, were prepared during the summer of 1983. Potential buyers of a Cyanamid blended fuel were identified and preliminary contacts made concurrent with the preparation of the Contract Documents.

The Contract Documents were distributed to the contractors in September 1983. Attachment B presents the initial bidders list along with the contractors who: received bid packages; attended the site tour/fuel blending demonstration; attended the pre-bid meeting and submitted bids. A total of 55 firms were included on the initial bidders list and a total of 8 bids received. Two of the contractors who submitted bids for the closure of Lagoons 1 and 2 (At-Sec Incineration and Best Environmental) were immediately eliminated by Cyanamid due to their proposed project cost and non-conformance with meeting the objectives outlined within the Contract Documents. The remaining contractors were subsequently interviewed during November and December for the purpose of discussing their overall approach and clarifying any outstanding items.

In conjunction with these interviews, Cyanamid and O'Brien & Gere conducted interviews with potential fuel users who, as a result of the preliminary contact, expressed interest in the use/purchase of this fuel product. A summary of the firms interviewed with respect to potential fuel use and the general purchase conditions are summarized on Table 1.

As a result of the interviews with the contractors submitting bids and potential fuel users, four closure alternatives were identified which met the general economic and project goals of the Lagoons 1 and 2 closure program. These included: a) Blend and Sell - Solid Fuel Product b) Solidification/On-Site Landfilling c) Solidification/In-Place Containment and d) Blend and Sell - Liquid Fuel Product. Presented below is a summary of these four alternatives, including actual techniques which would be utilized in each of these alternatives, the proposed schedule for implementing these alternatives, and the estimated construction costs for these alternatives.

Light BLEND AND SELL - SOLID FUEL PRODUCT - A bid was received from Kipin Industries, Inc. for blending the contents of Lagoons 1 and 2 with waste coal fines for the purpose of generating a coal-like material which would be marketed to coal users such as cement kilns. Kipin's original proposal called for the top two layers of Lagoons 1 and 2 (LOS and viscous rubbery material) to be blended with coal dust on a four to one ratio and marketed as a coal product. The remaining material in the lagoon (hard and crumbly material) would be blended with coal dust on a one to one ratio and placed in an on-site landfill, at an industrial landfill, or at a secure landfill, depending on the properties of the material and decisions from the regulatory agencies. Subsequent to the submittal of Kipin's bid, Cyanamid requested that Kipin investigate the potential of processing the entire contents of the lagoons at a four to one ratio with coal to produce a usable fuel product. Kipin then submitted a subsequent proposal for such an operation.

Kipin anticipates that the project can be completed within an eighteen month time frame allowing for both start-up and closure. To meet the requirements of the ACO, work would have to proceed by mid-1985.

The total project cost for Kipin completing this contract in accordance with the latter method described above (process entire contents as a fuel) is comprised of three specific components. The first component is the actual cost of material processing including excavation, processing, material handling, coal purchase and lagoon closure. The second component of this cost would be the credit received by Cyanamid from the sale of the fuel product. The third component of this cost would be the tax credit which may be available to Cyanamid on a unit basis for each ton of coal produced utilizing this process. The tax credit is available through the alternative energy legislation and is a result of the fact that a waste product, coal dust for the purpose of the tax credit, is being utilized as an alternative energy source to oil. The new cost to Cyanamid for this project including both fuel credit and tax credit is \$3.50 million dollars while the net cost of this project including only the fuel credit is \$6.65 million dollars.

2. SOLIDIFIC ATION/ON-SITE LANDFILLING — Bids were received from D'Appolonia Waste Management Services and Envirosafe Services, Inc. for the solidification of the waste material within Lagoons 1 and 2, and the on-site landfilling of this material. This process would entail the excavation of the material, the processing of the material and the placement of this material in an on-site landfill. The major question associated with this approach is the regulatory status of the waste material after it is solidified. Specifically, is this material still a hazardous waste where the landfill must be constructed and maintained as a secure landfill or is the solidified material a non-hazardous waste and therefore an industrial landfill would be sufficient.

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Both contractors stated that the major obstacle in meeting the time frame established by the ACO would be the securing of the necessary permits for the construction of the on-site landfill. In general, they stated that it would be possible to complete this project within 12-24 months of securing the proper permits, however, it is very possible that it could take up to two years to gain a permit for either a hazardous waste or industrial landfill.

Envirosafe Services bid for the solidification and on-site landfilling of this material was \$9.60 million which included construction of a secure, hazardous waste landfill. D'Appolonia's bid for the solidification and on-site landfilling of this material was \$6.08 million for a non-hazardous waste landfill and \$6.36 million for a secure, hazardous waste landfill. D'Appolonia's bid included selling the LOS layer and solidifying only the bottom two layers which partially accounts for the disparity of the two bids.

3. SOLIDIFICATION/IN-PLACE CONTAINMENT - Sevenson Construction Corporation submitted a bid for the solidification and in-place containment of the sludge within Lagoons 1 and 2. In this process, technology developed by Velsicol Chemical Corporation would be used to solidify the material in-place utilizing a process that was developed in the closure of one of their facilities in Michigan. Once the material was solidified in-place, an underdrain system would be installed beneath the waste material for the purpose of collecting groundwater coming in contact with this material and a low permability cap would be placed over this material for the purpose of limiting surface water infiltrating through this material.

Sevenson Construction has indicated that this project can be completed within a 17 month time frame, and therefore Cyanamid would be in compliance with the schedule and requirements of the ACO. Sevenson Construction's bid for the in-place solidification closure of these lagoons is \$5.5 million dollars plus or minus 15 percent.

Subsequent to submitting the above proposal, Sevenson Construction has located a potential buyer for the LOS layer which they are currently pursuing. If negotiations prove favorable with this potential buyer, Sevenson Construction will revise their proposal to reflect this change in methodology and cost.

BLEND AND SELL - LIQUID FUEL PRODUCT - As a result of the success of the fuel blending facility and the response of a number of industries who are willing to purchase this fuel product, the blending of the lagoon contents into a useable fuel by Cyanamid for subsequent off-site sale is a viable alternative. In this alternative, Cyanamid would undertake the blending of the three layers of waste materials within the lagoons. This No. 6 fuel like product of would then be marketed to a number of industries that are capable of utilizing large quantities of fuel with significant levels of both chlorides and sulfur. Once all the material has been excavated and processed from the lagoon, the lagoon would then be graded and seeded as part of final closure.

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It is possible to excavate and blend the contents of Lagoons 1 & 2 within a 12 month period. Therefore this blending facility would have to be operational by mid-1985 to meet the ACO.

The estimated cost for Cyanamid to construct and operate the fuel blending facility along with transportation of the fuel to the potential user is \$5.8 million dollars. The estimated revenues from the sale of this fuel product range anywhere from \$0-1.7 million dollars making the net cost of this project from \$4.1-5.3 million dollars.

A summary of the techniques to be implemented with each of these four alternatives along with the schedule and the estimated cost is presented on Table 2.

Implementation of each of the alternatives provide certain benefits to Cyanamid while also representing same risks. A discussion of the benefits and risks associated with implementing these alternatives is discussed below:

#### 1. BLEND AND SELL - SOLID FUEL PRODUCT

The benefit with implementing the Kipin alternative involving the blending of the entire contents of the lagoon into a fuel product is that all the waste materials in the lagoons are destroyed through energy recovery. The risk associated with implementing the Kipin alternative involving landfilling a portion of the contents after processing is that of long term liability associated with landfilling a waste material. This risk can be somewhat reduced by restricting any landfill activities to on-site.

The other risks associated with both these alternatives center mainly on the ability to market the fuel product. Kipin currently has established a number of avenues for marketing this product in the Northeast and therefore, this may not represent a significant risk. The other risk with respect to this particular alternative is the tax credit for the fuel product and if this tax credit may be used by Cyanamid

#### 2. SOLIDIFICATION/ON-SITE LANDFILLING

The risk of implementing this alternative would be that of long term liability associated with landfilling either a hazardous or non-hazardous material. Additionally, a decision from NJDEP with respect to the type of facility required would not be made until the up front testing work is completed. Additionally, securing a permit for a hazardous waste landfill may require anywhere from two to three years which would result in additional permitting and construction costs.

#### 3. SOLIDIFICATION/IN-PLACE CONTAINMENT

The benefit of implementing this alternative would be that the waste material would be isolated from the environment, therefore mitigating any further contamination from this waste.

The major risks associated with implementing this alternative would be that the in-place solidification process does not prove effective in mitigating the contamination from Lagoons 1 and 2 or that regulations would restrict or eliminate this type of remediation. Either of these would require Cyanamid to undertake additional work efforts in the future. The most likely future work effort would be the excavation and landfilling of this solidified project which would represent a significant future cost to Cyanamid.

#### 4. BLEND AND SELL-LIQUID FUEL PRODUCT

The benefit of implementing this alternative, as with alternative No. 1, is that all the waste material in the lagoons will be destroyed through energy recovery. The major risk associated with this alternative is that markets may not be available for the sale of this product. This is a very difficult risk to assess in that, as can be seen from Table 1, the major users interested in purchasing this material require up to 1.6 M gallons of fuel product for pilot testing. This would require Cyanamid to put up the capital associated with constructing and operating a fuel blending facility so that a sufficient quantity of fuel may be generated for the pilot tests, without having a firm commitment from any user. An additional risk associated with this alternative is that the technology developed as part of our pilot scale facility has not yet been proven on a full scale basis.

Since the inception of this program, it has been agreed that the preferred method of disposal for the contents of Lagoon 1 and 2 would be destruction through energy recovery. As a result of the work efforts completed as part of this program, there are two alternatives available to Cyanamid for destruction through energy recovery; Blend and Sell/Solid Fuel Product utilizing Kipin Industries Inc. and Blend and Sell/Liquid Fuel Product with Cyanamid assuming responsibility for fuel blending and marketing. From an economic standpoint, the costs of implementing either of the destruction alternatives is comparable to the in-place costly solidification alternative and less than solidification/on-site landfilling alternative. From a standpoint, the implementation of the Blend and Sell/Solid Fuel represents less of risk to Cyanamid than the Blend and Sell/Liquid Fuel alternative because of the proven technology for processing the solid fuel on a full scale basis and the established markets for this fuel.

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In summary, based on economics and potential risks, it appears that Blend and Sell/Solid Fuel Product, utilizing Kipin Industries, is the cost-effective, technically, sound method for closure of Lagoons 1 and 2.

If you should have any questions on the above information or would further like to discuss this information, please contact this office at your convenience.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

Andrew N. Johnson

Managing Engineer

ANJ/dk

CC: Mr. W.J. Eckert, American Cyanamid, Bound Brook

Mr. R.A. Muller, American Cyanamid, Bound Brook

Mr. G.R. Koehler, American Cyanamid, Wayne

#### LAGOON 1 AND 2 CLOSURE

#### SUMMARY OF POTENTIAL FUEL USERS

	USE CONDITIONS	PURCHASE CONDITIONS			
Stauffer Chemicals Co.	<ol> <li>20,000 gallons of fuel product required for test burn.</li> </ol>	<ol> <li>\$22/ton charge f.o.b. at Hammond, IN or Baton Rouge, LA facility</li> </ol>			
	<ol><li>Surcharge for ash, chlorides and sulfur exceeding preset limits</li></ol>	·•			
	3. 3.5 years to use all material				
Allied Corp.	<ol> <li>20,000 gallons of fuel product required for test burn.</li> </ol>	<ol> <li>Negotiable - up to \$.25/ gallon possible f.o.b. Claymont, DL.</li> </ol>			
	2. Use at rate of 1 M gallons/year				
Atlantic Cement	<ol> <li>1.6 M gallons required for test burn.</li> </ol>	<ol> <li>Negotiable - up to \$.15/ gallon possible f.o.b. Ravena, N.Y.</li> </ol>			
	2. Use at rate of 12.5 M gallons/year	N . I .			
Keystone Cement	<ol> <li>Testing required - amount not specified</li> </ol>	<ol> <li>Negotiable - up to \$.025/ gallon f.o.b. Bath, PA.</li> </ol>			
	2. Use at rate of 6M gallons/year				

### Project Summary

		Kipin Industries (1) (Solid Fuel Project)	blend/sell solidification		Solidification/ In-Place Containment	
1.	Total Project Cost	\$10,105,500 <sup>(2)</sup>	\$ 5,790,000	\$6.1M - 9.6M <sup>(2)</sup>	\$ 5.5M (±15%) <sup>(2)</sup>	
2.	Credits	\$ 3,451,000 (fuel credit) \$ 3,150,500 (tax credit)	\$ 0 - 1,680,000 (fuel credit)			
3.	Net Project Cost	\$ 3,504,000 \$ 6,654,500	\$ 4,111,000 \$ 5,790,000	\$6.1M - 9.6M	\$ 5.5M(±15%)	
4.	Completion Date	Mid-1985	Dec. 1986	1986-1989	May 1985	
5.	Risk	- No Market - Tax Credit	<ul> <li>No Market</li> <li>Technology of full-scale facil- ity not proven</li> </ul>	- Long-term liability - Delisting	<ul> <li>Future work due to ineffectiveness of alternative</li> <li>Long-term</li> </ul>	

<sup>(1)</sup> Alternative 3 on next page

<sup>(2)</sup> Does not include taxes, engineering or contingencies

### KIPIN INDUSTRIES

## SUMMARY OF ALTERNATIVE

		Coal				F -		
	Processing	Cost	Water &	T	otal Project	Fuel	Tax	Net
Alternative	Costs	(@\$30/Tons)	<u>Grading</u>	Other	Cost	Credit	Credit	Credit
1. Orginal Kipin Bid- HC to Landfill	\$2,677,500 is	\$4,140,000	\$288,000	\$1,925,000 (Landfill Charge	\$9,030,500 s)	\$2,001,000 (172,500 T. @11.60T)	\$1,828,500 (172,500 T @10.60T)	
2. On-Site Land- fills	\$2,677,500	\$4,140,000	\$288,000	\$1,800,000 (Landfill) \$1,250,000 (Placement Charg	\$10,155,500 (es)	\$2,001,000 (172,500 T. @11.60T)	\$1,828,500 (172,500 T @10.60T)	
			N.				٠.	
3. Entire contents as Fuel Product	\$2,677,500	\$7,140,000	\$288,000		\$10,105,500	\$3,451,000 (297,500 T. @11.60T)	\$3,150,500 (297,500 T @10.60T)	

#### DERIEN S GERE

March 13, 1983

Dr. Ray L. Hillard
American Cyanamid Company
Bound Brook, NJ 08805

Re: Lagoons 1 and 2 Remedial Program

ATTO MIT A

File: 2456.017 #2

Dear Ray:

We have reviewed the letter of February 24, 1983 from NJDEP confirming the general discussions of the meeting of February 9, 1983 concerning the Lagoon 1 and 2 report submitted to NJDEP. As we discussed, in light of NJDEP's attitude regarding compliance with the schedule outlined in the ACO, along with the changes in the oil market over the last three months, the development of remedial actions other than fuel blending for energy recovery should be considered. We still feel the most economic alternative for the remediation of Lagoons 1 and 2 will be one where this material is used for energy recovery. However, because of the current glut of the energy market, the potential users of hazardous wastes as a substitute fuel along with the price these users would be willing to pay for this fuel have both probably diminished over the last three months. Pursuant to our recent conversation, this letter will outline the background behind the ongoing Lagoon 1 and 2 Remedial Program and will discuss how further development of other remedial actions may be readily incorporated into this ongoing program.

The report entitled "Lagoons I and 2 Evaluation of Remedial Alternatives", submitted to Cyanamid in December 1982, concluded that the most economic alternative for the remediation of Lagoons I and 2 was fuel blending and off-site sales for energy recovery. This report concluded that it was most cost-effective for Cyanamid to undertake this fuel blending/off-site sales operation. However, this report recognized that it may be preferable for Cyanamid to deal with an outside contractor for this operation. This report recommended that Cyanamid undertake a dual program to better define the costs associated with the Cyanamid fuel blending/off-site sales operation, while also better defining the costs of an outside contractor undertaking this fuel blending/off-site sales operation by obtaining competitive quotes for this work effort.

As a result of the recommendations of the Report. Cyanamid directed O'Brien & Gere to undertake a program with the above defined goals. Inherent in this program was the development and temporary operation of a demonstration scale fuel blending facility. The purpose of this facility

was to demonstrate to outside contractors that it was possible to blend the contents of the lagoons into a fuel-like material while also providing sufficient quantities of blended fuel for their testing and analysis needs.

Subsequent to the submittal of the Lagoon 1 and 2 Report, and as part of Cyanamid's scaling down of the Bound Brook facility, it is our understanding that Cyanamid is considering a fluidized bed unit for the production of steam at this facility. This unit would be used to burn all on-site uscable fuels and then eventually be converted to burning high sulfur coal. It is also our understanding that the economic feasibility of this overall approach is currently being evaluated by Cyanamid personnel.

Based on the above, there are three basic alternatives that are currently being evaluated for the remediation of Lagoons 1 and 2; these being:

- 1. Fuel blending and off-site sales by Cyanamid
- 2. Fuel blending and off-site sales by outside contractor
- 3. On-site use by Cyanamid (evaluation presently by Cyanamid)

As stated above, in light of the changing status of the fuel oil market along with the attitude of NJDEP with respect to future extensions of time for further study of alternatives for Lagoons 1 and 2, it is prudent to re-evaluate the current status of this program with respect to remedial methods other than those listed above. In doing this, O'Brien & Gere has formulated what we feel is a thorough approach to developing the viable remedial action alternatives for Lagoons 1 and 2. We would propose that the scope of Alternative 2 above, fuel blending and off-site sales by outside contractor, be expanded to include further development of the other economically attractive alternatives identified in the Lagoon 1 and 2 Report. These alternatives would include:

- 1. Solidification/Fixation
- In-Place Containment of HC Layer/Removal-Treatment-Disposal of LOS and VR

Additionally, recycle/reuse alternatives would also be further developed.

The further development of the solidification/fixation alternative would entail the preparation of specifications for the solidification/fixation of this material along with the securing of competitive quotes for this work based on this specification. The further development of the inplace containment/removal-treatment-disposal alternative would entail obtaining competitive quotes for the removal-treatment-disposal of the LOS and VR layers of these lagoons. This cost would then be combined with the costs developed in the Lagoon 1 and 2 Report for the isolation

of the H/C layer. Recycle/reuse alternatives would be further developed by obtaining competitive quotes from firms in the oil recovery and energy recovery fields. All competitive quotes from outside contractors would be based on a standard set of conditions and requirements associated with these work efforts. Simultaneously, the development of Alternatives 1 and 3 would continue to better define the costs associated with their implementation. By expanding this program, current market costs will be developed or competitive quotes obtained for all viable remedial action alternatives. Once this is accomplished, a confident decision can be made as to the most economic remedial alternative for Lagoons 1 and 2.

The current schedule of the Lagoon 1 and 2 Remedial Program is such that competitive quotes may be obtained for the off-site use of this material sometime during August of this year. Therefore, if the development of the on-site incineration unit (Alternative 3) can be completed by August, at that time it will be possible to make a confident determination as to the most economic alternative to be implemented for the remediation of these two lagoons. This should allow sufficient time to implement this alternative in accordance with the schedule of the ACO.

We are currently evaluating the ongoing Lagoon 1 and 2 Remedial Program to determine how this new approach may affect the overall scope of work of that ongoing project. We will be contacting you in the near future regarding this matter.

If you should have any questions on the above information, or would further like to discuss this overall approach, please contact this office at your earliest convenience.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

Andrew N. Johnson, P.E.

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Managing Engineer

ANJ/tv

cc: Dr. M. Odian, American Cyanamid Company, Bound Brook

Mr. W.J. Eckert, American Cyanamid Company, Bound Brook

Mr. R.A. Muller, American Cyanamid Company, Bound Brook

Mr. C.S. Forsyth, American Cyanamid Company, Bound Brook

Mr. G.R. Koehler, American Cyanamid Company, Wayne

Mr. J.B. Reid, American Cyanamid Company, Wayne

## LAGOONS 1 and 2 CLOSURE

## INITIAL BIDDERS LIST

- 1. Perk Chemical Co., Inc.
- 2. Wyatt Oil
- 3. S&W Waste, Inc.
- 4. Delaware Container Co., Inc.
- 5. Atlantic Coast Environmental, Inc.
- 6. Centerflex Technologies
- 7. Stauffer Chemical
- 8. Precision Conversion & Recovery
- 9. ICD
- 10. Petroleum Associates
- 11. Solite Corp.
- 12. Detrex Chemical
- 13. Cemfuels
- 14. Cadence Chemical
- 15. Allied Corp.
- 16. Maxymillian Construction
- 17. Ny-Trex
- 18. Det-Con
- 19. KIS
- 20. 7-7 Inc.
- 21. Radecca
- 22. Solidtek
- 23. Waste Chem
- 24. Velsicol
- 25. Envirosafe Services
- 26. Chemfix Technologies
- 27. Environmental Services
- 28. Advanced Env. Tech.
- 29. Chem Waste Mgmt.
- 30. Cecos
- 31. Environmental Waste Mgmt.
- 32. D'Appolonia
- 33. IT Enviroscience
- 34. IT Corp.
- 35. Rollins Environmental
- 36. At-Sea Incineration
- 37. O.H. Materials
- 38. ABCO Industries
- 39. Eastern Environmental
- 40. Recra Research
- 41. XM Limited
- 42. Harbor Petroleum
- 43. Atlantic Cement
- 44. Energy and Resource Recovery
- 45. Primary Oil & Energy

- 46. Petro-Chem Processing
- 47. Kipin Industries
- 48. Fanwood Chemical
- 49. Willow Tech.
- 50. Reclamation Resources
- 51. McKesson Envirosystems
- 52. International Incinerators
- 53. Columbia Materials Exchange Corp.
- 54. Sludge Master, Inc.
- 55. N.U.S Corp.

## COMPANIES RECEIVING BID PACKAGE

- S&W Waste, Inc.
- Delaware Container Comp.
- Stauffer Chemical
- Petroleum Associates
- CEMFUELS
- Cadence Chemical Resources
- Primary Oil and Energy Corp.
- Petro Chem Processing
- Kipin Industry 9.
- 10. Reclamation Resources
- 11. McKesson Envirosystems Co.
- 12. International Incinerators
- 7-7, Inc. 13.
- Radecca 14.
- Solidtek 15.
- Waste Chem 16.
- 17. Velsicol Chemical
- 18. Envirosafe Services
- 19. Environmental Services
- 20. Chem Waste Management
- Cecos 21.
- 22. D'Appolonia
- 23. IT Enviroscience
- 24. IT Corp.
- 25. At Sea Incineration
- OH Materials 26.
- 27. Harbor Petroleum
- Eastern Environmental Services 28.
- 29. RECRA Resources. Inc.
- 30. Fanwood Chemical
- 31. XM Limited
- 32. Coastwise, Inc.
- 33. Columbia Materials Exchange
- 34. Environmental Facilities Corp.
- 35. Sludge Master 36. N.U.S. Corp.
- 37. J. Hall Marketing

## LAGOONS 1 and 2 CLOSURE

# COMPANIES ATTENDING SITE TOUR/FUEL BLENDING FACILITY

- S&W Waste, Inc.
   Delaware Container Co., Inc.
- Stauffer Chemical
- 4. Petroleum Associates
- Reclamation Resources, Inc.
- 7-7; Inc.
- Waste Chem 7.
- 8. IU Conversion System, Inc.
  9. Cecos International
- 10. D'Appolonia 11. IT Corp.
- 12. At Sea Incineration
- 13. Recra Research, Inc.
- 14. Atlantic Cement

## LAGOONS 1 AND 2 CLOSURE

# COMPANIES ATTENDING PRE-BID MEETING

- 1. Delaware Container Comp.
- 2. Stauffer Chemical
- 3. Cadence Chemical Resources
- 4. Kipin Industry
- 5. Reclamation Resources
- 6. Fanwood Chemical
- 7. Velsicol Chemical
- 8. Envirosafe Services
- 9. Environmental Services
- 10. Chem Waste Management
- 11. Cecos International
- 12. D'Appolonia
- 13. At Sea Incineration
- 14. OH Materials
- 15. RECRA Resources, Inc.

## LAGOONS 1 AND 2 CLOSURE

## COMPANIES SUBMITTING BIDS

- Kipin Industries
  Stauffer Chemical
  D'Appolonia
  Envirosafe Services, Inc.
  At-Sea Incineration
- OH Materials
- Best Environmental
  J. Hall Marketing